

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on June 3, 2008, and the references cited therewith.

Claim 17 is amended and claims 21-24 are withdrawn; as a result, claims 1, 2-10, and 15-24 are now pending in this application. Applicant respectfully requests favorable reconsideration in view of the following remarks.

Restriction Requirement

Applicant respectfully requests the Examiner to reconsider the Restriction Requirement dated January 17, 2008. Page 13 of the Restriction Requirement asked Applicant to elect one of four species: topical composition, wound healing device, prosthetic device, or implantable device. Applicant failed to elect one of these species in response to the Restriction Requirement. Applicant hereby elects wound healing device. Upon review of the pending claims, Applicant believes the Examiner has mischaracterized the claims with respect to potential “distinct” inventions. For example, Applicant respectfully submits that claim 15 should have been included with the “invention” of group I. Indeed, claim 15 is generic to the specific species elected and recited in claim 1. Similarly, Applicant respectfully submits that amended claim 17 is within the scope of the elected invention and elected species. Finally, Applicant respectfully submits that claim 19 is within the scope of the elected invention and elected species. Applicant believes the elected “paste” substrate is embraced by the recited “semi-solid” substrate of claim 19. Accordingly, Applicant requests that the Examiner join claims 15, 17, and 19 into the “invention” of Group I.

Claim Rejections – 35 USC § 103

The Office Action rejected claims 1, 3, and 4 under Section 103(a) as being unpatentable over Burrell et al. (U.S. Patent No. 5,985,308, hereinafter “Burrell ‘308”) in view of Shimizu, “Sol-Gel processing of NASICON thin film using aqueous complex precursor” (hereinafter “Shimizu”) and Vigo et al. (U.S. Patent No. 5,656,037, hereinafter “Vigo”). Claims 1, 3, and 4 were rejected under Section 103(a) as being unpatentable over Burrell et al. (U.S. Patent No. 6,333,093, hereinafter “Burrell ‘093”) in view of Shimizu and Vigo. Applicant respectfully

traverses these rejections and submits that the rejected claims would not have been obvious from the combined teachings of the cited prior art.

Rejection of Claims 1, 3, and 4: Burrell '308, Shimizu, and Vigo

Burrell '308. Burrell '308 discloses silver complex ions which produce an anti-microbial effect that is greater than that produced by an equivalent amount of silver (Ag^+). "The silver materials [disclosed by Burrell '308] may be prepared as powders or as solutions or suspensions containing the complex silver ions. The silver materials might also be prepared as coatings, foils, powders, or fine grain or nanocrystalline powders, which are formed with atomic disorder to provide sustained release of the complex silver ions." See, Burrell '308, Abstract. The atomic disorders disclosed by Burrell '308 include high concentration of point defects or line defects in the crystal lattice of the silver material, thereby leading to irregularities in surface topography and inhomogenities in the structure. Burrell '308, column 4, lines 3-9.

Shimizu. According to the Office Action, Shimizu teaches that Nasicon possesses high ionic conductivity and high chemical stability. While these are characteristics of Nasicon, they are not relevant to the claimed invention.

Vigo. Vigo discloses that magnesium peroxyacetate ($(\text{CH}_3\text{COO})_n\text{Mg}$) and magnesium dihydroperoxide ($\text{Mg}(\text{OOH})_2$) can be used to impart antibacterial activity to fibrous substrates. Vigo further teaches a method of applying the magnesium peroxyacetate or magnesium dihydroperoxide to "natural and synthetic fibrous substrates of all major fiber types." Column 2, lines 37-38. The process includes immersing the fibrous substrate in an aqueous dispersion of the magnesium peroxyacetate or magnesium dihydroperoxide and drying the fibrous substrate.

Claim 1 recites a beneficial material for medical application in association with a substrate comprising two principal elements: a Nasicon, Cu-Nasicon, Ag-Nasicon, or Au-Nasicon support material (hereinafter collectively referred to as a Nasicon support material) and a water insoluble peroxide reactive material associated with the support material. The Office Action acknowledges that the primary reference, Burrell '308 "does not explicitly teach Nasicon as a support material or water insoluble peroxide as reactive material as claimed by claim 1." To compensate for the deficiency of the primary reference, the Office Action cites two secondary references, Shimizu and Vigo, for the purpose of teaching the missing claim elements.

Applicant respectfully submits that Shimizu neither teaches a water insoluble peroxide associated with Nasicon nor suggests the possibility or desirability of associating a water insoluble peroxide associated with Nasicon in a beneficial material for medical application. Merely because Nasicon is a known material does not mean that it would have been obvious to associate a water insoluble peroxide with Nasicon in a beneficial material for medical application or for wound healing. Furthermore, because the water insoluble peroxides recited in claim 1 are not “ions”, the high ionic conductivity of Nasicon is not a relevant “reason” to rely upon Shimizu to support the rejection of claim 1.

Applicant respectfully submits that Vigo only discloses applying magnesium peroxyacetate or magnesium dihydroperoxide to *fibrous* substrates. The Examiner does not identify any teaching or suggestion or reason why a person having ordinary skill in the art would replace Vigo’s fibrous substrate with the elected paste substrate (claim 3). Moreover, Vigo fails to contain any teaching, suggestion, reason, or expectation of success that its magnesium peroxyacetate or magnesium dihydroperoxide compounds may be associated with a Nasicon support material.

With respect to the elected “paste” species recited in claim 3, Applicant notes that neither Burrell ‘308, Shimizu, nor Vigo teaches a “paste” substrate. While Burrell ‘308 discloses a silver material “suspension” that includes the complex silver ions disclosed therein, a person having ordinary skill in the art will recognize that a suspension is not a paste based upon the ordinary definition of the terms. A suspension is understood to include a mixture in which fine particles are suspended in a fluid where they are supported by buoyancy. A paste is understood to include a mixture of a soft and malleable consistency.

With respect to the insoluble peroxides recited in claims 4, 15, and 17, Applicant notes that neither Burrell ‘308, Shimizu, nor Vigo teaches the disclosed water insoluble peroxides (MgO_2 , BaO_2 , SnO_2 , AgO , CaO_2 , CuO_2 and ZnO_2) associated with the support material. Vigo’s magnesium peroxyacetate or magnesium dihydroperoxide are distinctly different.

In view of the foregoing, Applicant respectfully submits that Claim 1, 3, and 4 would not have been obvious from the combined teachings of Burrell ‘308, Shimizu, and Vigo. Applicant respectfully requests withdrawal of the rejection under Section 103(a).

Rejection of Claims 1, 3, and 4: Burrell '093, Shimizu, and Vigo

Burrell '093. Burrell '093 discloses a multilayer anti-microbial material formed to produce an interference color as an indicator of anti-microbial effect. Burrell '093's multilayer material includes a partly reflective base layer and a partly transmissive top layer. The top layer includes an antimicrobial metal with an atomic disorder. *See* Abstract. Burrell '093 teaches that the layer of anti-microbial metal formed with atomic disorder is produced with an initial color which changed on contacting an alcohol or electrolyte so as to generate an interference color which was different from the initial color. Abstract; Column 2, lines 31-36. The "atomic disorder" of Burrell '093's anti-microbial material is the same as that defined in Burrell '308. *See*, Burrell '093, column 5, lines 3-9.

As with Burrell '308, the Office Action acknowledges that Burrell '093 "does not explicitly teach Nasicon as a support material or water insoluble peroxide as reactive material as claimed in claim 1." To compensate for the deficiency of Burrell '093, the Office Action cites the Shimizu and Vigo secondary references for the purpose of teaching the missing claim elements in the same manner discussed above.

Applicant respectfully submits that claims 1, 3, and 4 would not have been obvious from the combined disclosure of Burrell '093, Shimizu, and Vigo for the same reasons discussed above in relation to the Burrell '308 primary reference. Applicant respectfully requests withdrawal of the rejection under Section 103(a).

Conclusion

Applicant respectfully submits that it would not have been obvious to a person having ordinary skill in the art at the time of the invention to provide a beneficial material for medical application in association with a substrate comprising the Nasicon support material and a water soluble peroxide reactive material associated with the support material because Burrell '308, Burrell '093 and the secondary references Shimizu and Vigo fail to disclose or suggest the recited claim elements. Applicant further submits that the subject matter of claims 3 and 4 would not have been obvious from the combined teachings of the cited prior art as set forth in the Office Action. Finally, Applicant respectfully submits that the subject matter of claim 17, which

includes the limitations of claim 1 and 4, plus the recitation of the “substrate capable of association with a wound of a human or other animal,” is likewise in condition for allowance.

Applicant respectfully submits that the claims are in condition for examination. The Examiner is invited to telephone Applicant’s attorney (801-978-2186) to facilitate prosecution of this application.


If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-3586

Respectfully submitted,

ASHOK V. JOSHI

By his Representatives,

Date SEP 3, 2008

By 
David B. Fonda
Reg. No. 39,672